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3. (Amended) The thermoionic cathode of claim 2, wherein said buffer by altering miniaturizes grain sizes of grains at the surface of said substrate contacting said buffer.

92

6. (Amended) The thermoionic cathode of claim 2, wherein said buffer alters the grain structure at the surface of said substrate contacting said buffer by at least one of dissolution, alloying, reaction, precipitation, and new phase formation.

7. (Amended) The thermoionic cathode of claim 1, wherein said buffer blocks said substrate, said buffer being from a chemical class similar to a chemical class of said substrate.

93

16. (Amended) The thermoionic cathode of claim 1, wherein said buffer blocks said substrate, said buffer blocking a grain structure at a surface of said substrate contacting said buffer by at least one of alloying, reaction, precipitation, and new phase formation.

Please add the following claim:

94

--36. (New) The thermoionic cathode of claim 1, wherein said buffer alters and blocks said substrate by reacting therewith to form a randomly oriented surface structure.--
